MANAGEMENT OF SOLVENT-CONTAMINATED RAGS

Many businesses use rags and solvents to clean a variety of materials. The purpose of this guidance is to assist businesses in determining the appropriate management practices for solvent-contaminated rags and wipes.

Rags Laundered for Re-Use

If a business is using launderable, reusable cloth rags or wipes, the contaminated cloth rags are not subject to generator; transporter; and permitted treatment, storage, and disposal facility requirements of the Idaho Rules and Standards for Hazardous Waste and are not "counted" as a hazardous waste provided the following conditions are met:

1. The used rags contain no free liquids. Free liquids should be removed by wringing, pressing, centrifuging, or other effective means. If equipment is used to remove free liquids from the rags, the equipment should be suitable for use in operations involving volatile and flammable liquids. Free liquids should be collected and reused. If the free liquids are not reused, the liquid is considered a solid waste subject to a hazardous waste determination. Air drying solvent-contaminated rags to allow volatile constituents to evaporate is not a permissible or legal method to remove free liquids.

Disposal of solvents by pouring them into containers of used rags, or mixing any other hazardous wastes with the used rags constitutes disposal of hazardous waste subject to applicable regulation. Additionally, the reduced management standards for contaminated rags do not apply to those rags/wipes contaminated with acutely hazardous wastes.

2. The used rags are stored and transported in non-leaking, closed, fire-resistant containers and are kept away from sources of ignition. Containers must be in good condition and sufficient to prevent the release of contaminants to the air. Again, evaporation is not allowed. If the rags are transported by commercial carrier, the containers must meet Department of Transportation (DOT) standards.

3. Containers holding used rags are labeled to identify their contents (e.g., "Solvent Contaminated Rags" or "Solvent Contaminated Wipes").

4. Contaminated rags from more than one process with incompatible solvents are not stored in the same container.

5. The used rags are laundered on-site or sent to a commercial laundering facility, either of which must be regulated under a Clean Water Act (CWA) wastewater discharge permit issued by the generator's local pre-treatment program. It is the generator's responsibility to obtain reasonable assurance that an off-site laundry is meeting discharge limits and other applicable environmental regulations.

6. On-site documentation must be maintained and available for review showing the rags are sent to a suitable laundry (e.g., invoices or contractual agreement).

This exemption applies only to rags or wipes that are laundered for reuse and meet the conditions listed above. If rags or wipes are disposed, treated prior to disposal, or do not meet any of the conditions listed above, they are considered a solid waste subject to a waste determination and applicable hazardous waste regulations, as described below.

Rags Which Are Not Laundered for Re-Use

If a business is using rags and wipes that are not laundered for re-use, a different set of requirements applies. When these rags become too dirty to use, the rags become a solid

waste and are subject to a hazardous waste determination [40 CFR §§ 261.2 and 262.11]. In order to determine if a solvent-contaminated rag is a hazardous waste, the generator of the waste must first determine what type of solvent the rag contains. Information supplied on Material Safety Data Sheets (MSDSs) may assist generators in determining the type of solvent used.

There are three types of regulated solvent waste:

- solvents which exhibit the characteristic of ignitability and as a waste carry the D001 hazardous waste code [40 CFR § 261.21];

- solvents which exhibit the toxicity characteristic (i.e., D035 methyl ethyl ketone [40 CFR § 261.64]); and

- solvents which meet the definition of F-listed hazardous wastes [40 CFR § 261.31]. To meet the definition of an F-listed hazardous waste, the product solvent must contain 10% by volume of one or more of the constituents in the listing description for waste codes F001 through F005.

Hazardous waste rags contaminated with different types of solvent present different management scenarios.

Rags contaminated with solvents exhibiting only the characteristic of ignitability: A solvent-contaminated rag which does not contain free liquid is a solid and is subject to the definition of a solid ignitable hazardous waste as stated in 40 CFR § 262.21 (a)(2). According to this definition, to be an ignitable hazardous waste the waste rag must be capable of a spontaneous chemical change and once ignited, must burn so vigorously and persistently it creates a hazard. In most cases, ignitability characteristic solvent contaminated rags will not spontaneously combust. Since most rags contaminated with ignitability characteristic solvents are not a hazardous waste, the Land Disposal Restriction treatment standards [40 CFR § 268.42] do not apply to the rags. These rags may be disposed of in a solid waste landfill with landfill operator permission.

Rags contaminated with solvents exhibiting a toxicity characteristic: Some solvent products may contain Toxicity Characteristic constituents, such as methyl ethyl ketone (D035) or trichloroethylene (D040) [40 CFR § 262.24]. If a generator can demonstrate through analysis or information supplied by the manufacturer that the product solvent does not contain any toxicity characteristic constituents above the regulatory level, this information is sufficient to show the waste rags contaminated with this solvent are non-hazardous waste. MSDSs may not provide sufficient information to determine if a product solvent contains toxicity characteristic constituents above the regulatory level. In some cases, MSDSs only provide information on constituents present above a specific percentage range. Since many toxicity characteristic constituents are regulated in the low parts per million, it may be necessary to obtain additional written documentation from the manufacturer.

If a generator chooses to demonstrate waste rags contaminated with a product solvent, which contain a toxicity characteristic constituent above the regulatory level, are not hazardous waste, the generator must submit a representative sample of the rags to a laboratory for Toxicity Characteristic Leaching Procedure (TCLP) analysis [Method 1311 as stated in Appendix II of 40 CFR § 261]. Alternatively, the generator may submit a representative sample of the rags for analysis for the total amount of the given constituents by the analytical methods stated in Appendix III of 40 CFR § 261; however, if the level of the constituent exceeds the toxicity characteristic regulatory level, the waste must be managed as a regulated hazardous waste.

Rags contaminated with F-listed solvents: Rags that are contaminated with F-listed solvents must be managed as regulated hazardous waste. A solid waste that is not excluded from regulation becomes a hazardous waste when mixed with a listed hazardous waste [40 CFR § 261.3 (b)(2)]. Since waste rags are a solid waste and are not excluded from regulation, the rags become an F-listed hazardous waste when mixed with a spent F-listed solvent.

The F-listed solvent waste code F003 has a different management requirement. F003 wastes are listed solely on the basis of ignitability [40 CFR §§ 262.30 and 261.31]. If rags are contaminated with F003 solvents only, do not contain any free liquids, and do not fail the ignitability characteristic for a solid, these waste rags are not hazardous wastes, and it is not necessary to comply with the generator management standards in 40 CFR Part 262 [See "Rags contaminated with solvents which only exhibit the characteristic of ignitability" section of this guidance, 40 CFR § 262.21 (a)(2), and 40 CFR § 261.3 (a)(1)(iii)].

However, the regulations also state even though the mixture (in this case, the F003 solvent and the waste rag) does not exhibit the ignitability characteristic, it must still meet the appropriate Land Disposal Restriction (LDR) treatment standards in 40 CFR Part 268 at the point of land disposal [40 CFR § 261.3 (a)(1)(iii)]. Prior to disposing of the rags in a landfill [or in any other way which meets the definition of land disposal in 40 CFR § 268.2 (c)], the generator must show the F003 contaminated rags meet the LDR standards, keep copies of the laboratory analyses or other documentation which show they meet the LDR standards in their files, and certify to the disposal facility the waste rags meet the LDR standards [40 CFR Part 268, Appendix X].

Authority for issuing guidance: The Environmental Protection Agency (EPA) has delegated to Idaho the authority for enforcing and interpreting the requirements of the regulations promulgated pursuant to the federal Resource Conservation and Recovery Act, the federal law which defines the requirements for properly managing solid and hazardous waste [40 CFR §272.650]. To properly implement the requirements of the act, Idaho enacted the Idaho Hazardous Waste Management Act through the legislative process and adopted the applicable parts of the Code of Federal Regulations in the Idaho *Rules and Standards for Hazardous Waste* [IDAPA 58.01.05.000 et seq.]. In addition to delegating enforcement of the federal regulations, EPA has also delegated the authority to issue guidance to clarify the requirements or meaning of regulations [40 CFR § 272.50]. This guidance is not intended to replace the state or federal regulations dealing with the proper management of hazardous waste. Throughout this guidance, references to the appropriate sections of the Code of Federal Regulations are made in brackets.

Additional management considerations: The generator must consider the properties of the surface or material being cleaned by a rag. Residue cleaned from a surface may cause the rag to exhibit characteristics of hazardous waste. For example, cleaning lead surfaces may cause the rag to exhibit the toxicity characteristic for lead.

Air drying solvent-contaminated rags to allow volatile constituents to evaporate is not a permissible form of treatment or disposal. Evaporation merely transfers the hazardous constituents from the rag to the air.

If a waste rag carries more than one hazardous waste code, the generator must identify all waste codes during the hazardous waste determination and must comply with all LDR standards applicable to the multiple waste codes. The LDR Universal Treatment Standards which became effective on December 19, 1994, require generators of certain subcategories of ignitable (D001), corrosive

(D002), reactive (D003), and toxic (D004 through D043) wastes to determine if the waste meets LDR standards for all underlying hazardous constituents which might reasonably be expected to be present in the waste [40 CFR § 268.7 (a)].

The advantages of non-hazardous solvents: In many instances, it is possible to eliminate the generation of hazardous waste rags. Non-hazardous solvents may replace F-listed and characteristic solvents or a generator may consider mechanical methods of cleaning such as power washing or steam cleaning using non-hazardous detergents. Employing such practices may not only reduce the generation of hazardous waste, but has the additional advantages of:

- eliminating or reducing the generator's regulatory liability;
- reducing the cost of purchasing solvents and disposing the waste produced;
- reducing employee exposure to potentially harmful chemicals; and
- providing a cleaner, healthier environment for your employees and the community.

For more information
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